

Title (en)  
Electromagnetic flow sensors

Title (de)  
Magnetisch-induktive Durchflussaufnehmer

Title (fr)  
Capteurs de débitmètre électromagnétique

Publication  
**EP 0649005 B1 19970423 (DE)**

Application  
**EP 94112235 A 19940804**

Priority  
• EP 94112235 A 19940804  
• EP 93810721 A 19931014

Abstract (en)  
[origin: EP0649005A1] To produce magneto-inductive flow sensors having the smallest possible material requirement for coils, for their pole shoes and for the magnetic return path, and having a reduced constructional length, provision is made, in the case of nominal widths between 200 mm and 700 mm, of a measuring tube (11, 11', 11'') which is flowed through by an electrically conductive fluid which is to be measured, the measuring tube having at least two measuring electrodes (14). In addition, the measuring tube (11) has arranged on it means for generating a magnetic field passing through it, the means comprising: coils (15, 16) which are located diametrically opposite each other on the outer envelope surface, coil cores (17, 18, 19, 20), pole laminations (21, 22) which extend on both sides of the respective coil in the circumferential direction on the outer envelope surface whilst maintaining a sufficient mutual spacing of the ends, and a magnetic return path lamination (23, 24), each of which is arranged in each case on one side of the coils and of the pole laminations and extends on the external envelope surface, completely encloses the measuring tube and is, in each case, magnetically coupled to the pole laminations (21, 22) via the coil cores (17, 18, 19, 20). The coils, the coil cores, the pole laminations and the return path laminations are surrounded by a covering. For nominal widths above 500 mm, two pairs of partial coils (15', 15''; 16', 16'') are provided. <IMAGE>

IPC 1-7  
**G01F 1/58**

IPC 8 full level  
**G01F 1/58** (2006.01)

CPC (source: EP US)  
**G01F 1/58** (2013.01 - EP US); **G01F 1/586** (2013.01 - EP US)

Cited by  
DE102014113409A1; US5385082A; DE102019123409A1; EP1674836A1; DE102009001413A1; US9360356B2; WO2016041725A1;  
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